

## WESTON INSTRUMENTS

### Multipliers for Model 1 Standard Portable Voltmeters

#### For Direct Current

Multipliers are resistance boxes, the coils in which are highly insulated, and are adjusted so that the readings of the instrument may be multiplied by any desired constant. Multipliers are usually constructed so that the indications of the pointer, multiplied by 2, 5, 10, 20 or 50, will give the potential of the circuit.

The multipliers listed below have been designed for use in connection with direct-current voltmeters and are generally used with 120 and 150-volt instruments. Intermediate ranges or subdivisions will be provided when ordered. By the use of the multipliers, the range of voltmeters may be increased to any practical limit.

Multiplying Constant of	Range in Volts of Voltmeter and Multiplier Combined	*List Price Each	Multiplying Constant of	Range in Volts of Voltmeter and Multiplier Combined	*List Price Each
2 for 150 Volts.....	300	\$20.00	30 for 150 Volts.....	4500	\$140.00
4 for 150 Volts.....	600	30.00	50 for 100 Volts.....	5000	160.00
5 for 150 Volts.....	750	40.00	40 for 150 Volts.....	6000	180.00
10 for 120 Volts.....	1200	50.00	65 for 100 Volts.....	6500	200.00
10 for 150 Volts.....	1500	60.00	60 for 120 Volts.....	7200	210.00
20 for 100 Volts.....	2000	80.00	50 for 150 Volts.....	7500	220.00
15 for 150 Volts.....	2250	90.00	60 for 150 Volts.....	9000	260.00
25 for 100 Volts.....	2500	100.00	100 for 100 Volts.....	10000	300.00
20 for 150 Volts.....	3000	100.00	100 for 120 Volts.....	12000	350.00
25 for 150 Volts.....	3750	120.00	100 for 150 Volts.....	15000	400.00
40 for 100 Volts.....	4000	130.00			

For subdivisions, add \$10.00 to above prices for each additional range.

Special prices will be quoted for multipliers for instruments of other ranges than above.

### Model 56 Portable Duplex Instruments

#### Direct Current



Model 56 Duplex

These Duplex Instruments consist of a voltmeter and an ammeter combined in one case. The case is of highly finished natural cherry, has a strongly hinged cover, and serves as a carrying box. All connections are made by means of binding-posts inside of the case. These posts are plainly marked, showing their polarity and to which side of the instrument they are connected.

These instruments are regularly supplied with a single-range voltmeter and a single-range ammeter; they will be supplied, however, with either 2 voltmeter movements or 2 ammeter movements of like or different ranges, if so desired. The voltmeter side may be obtained with a double range at a slight increase in cost. The ammeter is furnished only in single ranges up to 100 amperes with a self-contained shunt, but if multiple or higher ranges are desired they can be obtained by the use of external shunts.

These instruments will be found serviceable for all ordinary testing in which a greater degree of accuracy than 1 per cent. is not desired.

#### \*List Prices

Range in Amperes	Range in Volts					
	75	150	300	450	600	750
5.....	\$90.00	\$95.00	\$100.00	\$105.00	\$110.00	\$120.00
15.....	90.00	95.00	100.00	105.00	110.00	120.00
25.....	90.00	95.00	100.00	105.00	110.00	120.00
50.....	90.00	95.00	100.00	105.00	110.00	120.00
100.....	90.00	95.00	100.00	105.00	110.00	120.00
150.....	90.00	95.00	100.00	105.00	110.00	120.00
200.....	90.00	95.00	100.00	105.00	110.00	120.00
250.....	96.00	101.00	106.00	111.00	116.00	126.00
300.....	96.00	101.00	106.00	111.00	116.00	126.00
400.....	96.50	101.50	106.50	111.50	116.50	126.50
500.....	97.00	102.00	107.00	112.00	117.00	127.00
	98.00	104.00	109.00	114.00	119.00	129.00

Upon application prices will be quoted for ranges or combinations of ranges not included in the above list.

If the voltmeter is desired with a double range, add \$6.00 to the list price for higher range.  
Specify voltage desired in ordering.

\*Delivery F. O. B. factory, Newark, N. J. For warehouse deliveries write nearest house.

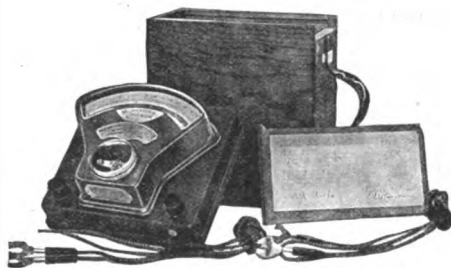
**WESTON INSTRUMENTS**

**Model 1 Voltmeter**
**Weston Standard Portable Voltmeters, Model 1, Inspectors' Style**
**For Direct Current**

Classified as "Inspectors' Style," we furnish voltmeters securely fastened in highly polished mahogany cases. All of these instruments are provided with reversing keys.

The binding posts are of standard type, and the ready access to them is provided by the design of the case. To list prices of voltmeter shown elsewhere, add amounts given below.

List No.	Description	*List Price Each
1	Complete with flexible cords .....	\$8.00
2	Complete with flexible cords and compartment for same .....	10.00
3	Case contains compartment with set of 4 lamp adapters and flexible conducting cords ..	20.00

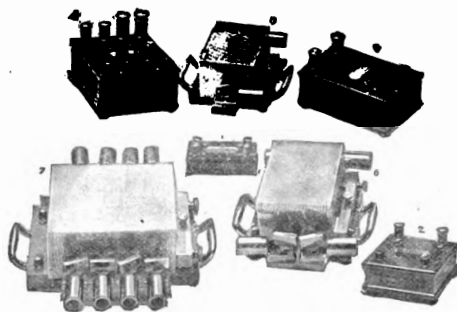

**Model 1 Millivoltmeter**
**Weston Standard Portable Millivoltmeters, Model 1**
**For Direct Current**

These instruments may be arranged for use with alloy shunts for ampere measurements at an additional cost of \$10.00.

List No.	Description	*List Price Each
1	Range, 0 to 20 millivolts, 100 divisions, each representing 0.2 of a millivolt, readable to 0.02 of a millivolt .....	\$100.00
2	Range, 10 to 0 to 10 millivolts, zero center, 100 divisions, each representing 0.2 of a millivolt, readable to 0.02 of a millivolt .....	100.00
3	Double Range, 10 to 0 to 10 and 100 to 0 to 100 millivolts, zero center, 100 divisions, supplied with contact key, by the use of which either range may be employed .....	110.00
4	Double Range, 0 to 20 and 0 to 200 millivolts, 3 binding posts, 100 divisions, each representing either 0.2 of a millivolt or 2 millivolts, according to range used .....	110.00

\* Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON INSTRUMENTS**



**Weston Patent Alloy Shunts**

**FOR USE WITH PORTABLE STANDARD MILLIVOLTMETER MODEL No. 1**

**For Direct Current**

These Millivoltmeters, in connection with Weston Patent Alloy Shunts, read directly in amperes. Shunts of different sizes can be adjusted to the same instrument, and it can, therefore, be used to measure a current of 2000 amperes with the same degree of accuracy as a current of 1 ampere. The combination of millivoltmeter and shunt is practically compensated for temperature and is correct within  $\frac{1}{2}$  of 1 per cent. If at any time the user of this combination desires to employ additional ranges to those for which the instrument is already adjusted, it is simply necessary to purchase additional shunts of the ranges required, thus saving the expense of an additional instrument. The scales of the instrument can be divided into 100, 120 or 150 divisions. In selecting shunts of different range for use in connection with one instrument, it should be considered that the higher ranges must be even multiples of the lower one in order to suit the same scale on the instrument.

These shunts can be supplied in two or more ranges combined in one case, as indicated in price list below.

**Shunts with Single Range**

Range in Amperes	List Price *Each	Range in Amperes	List Price *Each	Range in Amperes	List Price *Each
1	\$20.00	75	\$50.00	600	\$110.00
3	25.00	100	60.00	750	120.00
5	30.00	150	65.00	800	130.00
10	30.00	200	70.00	1000	160.00
15	30.00	250	75.00	1500	260.00
25	35.00	300	80.00	2000	350.00
30	40.00	400	90.00		
50	45.00	500	100.00		

**Shunts With 2 Ranges Combined in One Case**

5 and 1	\$40.00	100 and 10	\$80.00	400 and 200	\$130.00
10 and 1	45.00	150 and 15	85.00	500 and 50	125.00
15 and 1.5	50.00	150 and 30	90.00	500 and 100	130.00
15 and 3	50.00	200 and 20	95.00	500 and 200	130.00
30 and 3	50.00	300 and 15	105.00	600 and 60	130.00
40 and 4	55.00	300 and 30	110.00	600 and 300	160.00
50 and 5	60.00	300 and 150	120.00	750 and 300	180.00
75 and 15	70.00	400 and 40	120.00	1000 and 500	280.00

**Shunts With 3 or More Ranges Combined in One Case**

15-3-0.75	\$60.00	75-15-1.5	\$85.00	150-75-15-1.5	\$130.00
15-3-1.5	60.00	100-10-1	90.00	150-75-15-1.5-0.75	140.00
30-15-1.5	70.00	100-20-2	90.00	200-20-2	110.00
30-15-3	70.00	100-50-20-2	120.00	200-100-10	120.00
30-15-7.5-1.5	95.00	100-50-20-10-5-1	140.00	300-15-1.5	120.00
50-5-0.5	80.00	150-15-1.5	100.00	300-30-3	120.00
50-10-1	80.00	150-15-1.5-15	120.00	300-75-15	130.00
50-20-5-0.5	110.00	150-75-15	110.00		

Above prices include adjustment between millivoltmeter and shunts.

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON INSTRUMENTS**


Model 45 Voltmeter

**Voltmeters and Ammeters**
**Model 45 Portable**
**For Direct Current**

These instruments are designed to meet the demand for a low-priced voltmeter or ammeter of sufficient accuracy for station work and general testing. The movement in this type of instrument is completely enclosed in an iron case (which protects it in a large measure from stray magnetic fields), securely fastened in a wooden carrying box. This box is provided with a hinged cover which protects the scale and binding-posts. Ammeters, having a maximum range of 25 amperes or less, are provided with self-contained shunts. Higher ranges are adjusted to external station type shunts.

**MODEL 45 DC VOLTMETERS**

Range in Volts	Value of Each Scale Division in Volts	*List Price Each
0 to 3	0.02	\$50.00
0 " 5	0.05	50.00
0 " 15	0.1	50.00
0 " 150	1	59.00
0 " 300	2	65.00
0 " 600	5	70.00
0 " 750	5	74.00

Double-scale voltmeters in this type will be furnished, when desired, at the price of \$5.00 additional to the list price of the highest range for each step.

**MODEL 45 DC AMMETERS**

For all ranges above 25 amperes these instruments consist of millivoltmeters adjusted with external station type shunts to read direct in amperes.

Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each
0 to 1.5	0.01	\$50.00
0 " 5	0.05	50.00
0 " 15	0.1	50.00
0 " 25	0.2	50.00
0 " 50	0.5	51.00
0 " 100	1	53.00
0 " 150	1	54.00
0 " 200	2	56.00
0 " 250	2	56.50
0 " 300	2	56.50
0 " 400	5	57.00
0 " 500	5	59.00
0 " 600	4	61.00
0 " 750	5	63.00

\* Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.  
 Measuring and Testing Instruments

**WESTON INSTRUMENTS**



**Model 370**  
Dimensions  $8 \times 10\frac{1}{4} \times 5\frac{1}{4}$  Inches  
Scale Length  $5\frac{1}{4}$  Inches



**Model 341**  
Dimensions  $8 \times 10\frac{1}{4} \times 5\frac{1}{4}$  Inches  
Scale Length  $5\frac{1}{4}$  Inches

**Weston Portable A.C. and D.C. Ammeter**

**MODEL 370**

These instruments are electro-dynamometer ammeters and may be used with equal accuracy on either direct current circuits or on alternating current circuits of any frequency up to 133 cycles per second and of any wave form.

They are contained in polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 11 lbs. and the dimensions are  $8 \times 10\frac{1}{4} \times 5\frac{1}{4}$  inches over all.

They will be found particularly useful as transfer instruments from direct to alternating current and for checking electro-magnetic (movable iron) or induction type instruments, or for all measurements of current where very high accuracy is desired.

**PRICE LIST OF MODEL 370—MILLIAMMETERS**

Single Range, Milliamperes	Approximate Res. in Ohms	List Price Each	Single Range, Milliamperes	Approximate Res. in Ohms	List Price Each
15	1400	\$135.00	150	19.5	\$135.00
20	720	135.00	200	7.5	135.00
30	350	135.00	300	3.2	135.00
50	167	135.00	500	1.2	135.00
75	50	135.00	750	0.9	135.00
100	28.5	135.00			

**AMMETERS**

Double Range, Amperes	List Price Each	Double Range, Amperes	List Price Each	Double Range, Amperes	List Price Each
2-1	\$150.00	5-2½	\$150.00	10-5	\$150.00

**Weston A.C. and D.C. Portable Voltmeter**

**MODEL 341**

These instruments are electro-dynamometer voltmeters and may be used with equal accuracy on either alternating current or direct current circuits.

They are contained in highly polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 11 lbs., and the dimensions are  $8 \times 10\frac{1}{4} \times 5\frac{1}{4}$  inches over all.

**PRICE LIST, MODEL 341 VOLTMETERS  
SINGLE RANGES**

Ranges, Volts	Approximate Res. in Ohms	List Price Each	Ranges, Volts	Approximate Res. in Ohms	List Price Each
1	2	\$130.00	15	100	\$125.00
1.5	3	130.00	30	470	120.00
2	4	130.00	75	1180	120.00
3	6	130.00	2700	3300	120.00
5	8	130.00	120	6700	125.00
7.5	50	125.00	300	20000	135.00
10	66	125.00	600	25000	140.00
12	80	125.00	750		

**DOUBLE RANGES**

Ranges	Approximate Res. in Ohms	List Price Each	Ranges	Approximate Res. in Ohms	List Price Each
5-1	10-2	\$140.00	150-75	3300-1650	\$130.00
15-1.5	30-3	140.00	300-150	6700-3350	135.00
3-1.5	6-3	140.00	600-150	20000-5000	145.00
6-3	21-10.5	140.00	600-300	20000-10000	145.00
15-7.5	100-50	135.00	750-150	25000-5000	150.00
30-15	300-150	135.00	750-300	25000-10000	150.00
120-60	2700-1350	130.00			

Delivery F. O. B. Factory, Newark, N. J.

For warehouse deliveries write nearest house.

## WESTON INSTRUMENTS

Model 1 Mil-Ammeter  
No. 320070Weston Standard Portable Direct-Reading Mil-Ammeters, Model 1  
For Direct Current

List No.	Range in Milliamperes	No. of Scale Divisions	Value of each Scale Division in Milliamperes	Readable to	*List Price Each
0.....	150	150	1	$\frac{1}{10}$ of a Milliampere	\$100.00
1.....	300	150	2	$\frac{1}{10}$ of a Milliampere	100.00
2.....	600	150	4	$\frac{1}{10}$ of a Milliampere	100.00
3.....	1000	100	10	1 Milliampere	100.00
4.....	1500	150	10	1 Milliampere	110.00
5.....	$\left\{ \begin{array}{l} 500 \\ 50 \end{array} \right.$	100	$\left\{ \begin{array}{l} 5 \\ 1/2 \end{array} \right.$	$\frac{1}{20}$ of a Milliampere	120.00
6.....	$\left\{ \begin{array}{l} 500 \\ 10 \end{array} \right.$	100	$\left\{ \begin{array}{l} 5 \\ 1/10 \end{array} \right.$	$\frac{1}{100}$ of a Milliampere	120.00
7.....	Same range and capacity as No. 320070, but is supplied with a small resistance box or multiplier, having 2 coils. When this is connected in series with the instrument binding-posts marked 10, the lower scale may be read directly in volts, a full scale deflection being secured with 10 or 100 volts, according to the coil of the multiplier used				150.00

\* Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

## Weston Single Phase Portable A.C. and D.C. Wattmeter

## MODEL 310

These instruments represent the latest development in electro-dynamometer wattmeters and embody many characteristics hitherto considered unattainable in instruments of this class.

They are contained in highly polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 11 lbs. and the dimensions are 8 x 10  $\frac{1}{4}$  x 5  $\frac{3}{4}$  inches over all.

## SCALES

The scales are 5  $\frac{1}{4}$  inches long, are uniform throughout their entire length, and are provided with mirrors to prevent parallax errors.

The pointers are of the Weston triangular truss type, with knife edges, and are equipped with simple zero setting devices controlled from the outside of the case.

## RANGES

Double ranges for both the current and voltage circuits are provided.

The double current range feature is obtained by connecting the two field coil sections either in series or in multiple by means of links and binding screws, conveniently located on the top of the instrument. These links are provided with handles to facilitate their manipulation and are slotted, making it unnecessary to remove them entirely each time the range is changed.

The double voltage ranges are controlled by means of independent binding posts.

As each instrument has a number of ranges, a scale cannot be made which is readable with equal facility for all ranges. In each case, however, a scale is provided which gives 1, 2 or 5 units per division for the range marked and simple multiplying factors for the other ranges.

See following page for prices.

Measuring and Testing Instruments

**WESTON INSTRUMENTS**

**Weston Single Phase Portable A.C. and D.C. Wattmeters**

CONTINUED

List Prices of Model 310 Single Phase Wattmeter—(See Preceding Page)

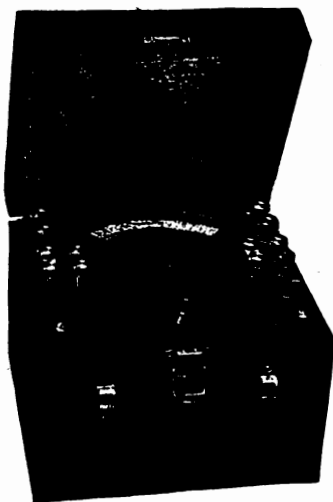
Volts	Ampere				*Watt Ranges		Number of Scale Lines	List Price
	Normal		Maximum		Field Coils in Series	Field Coils in Multiple		
	Series	Multiple	Series	Multiple				
Normal 100/50.....	1	2	2	4	100/50	200/100	100	\$140.00
	2.5	5	5	10	250/125	500/250	125	140.00
	5	10	10	20	500/250	1000/500	100	140.00
	10	20	20	40	1/ .5 K.W.	2/1 K.W.	100	140.00
	20	40	40	80	2/1 K.W.	4/2 K.W.	100	150.00
Maximum 150/75.....	30	60	60	120	3/1.5 K.W.	6/3 K.W.	150	150.00
	50	100	75	150	5/2.5 K.W.	10/5 K.W.	100	150.00
Normal 150/75.....	1	2	2	4	150/75	300/150	150	140.00
	2.5	5	5	10	375/187.5	750/375	150	140.00
	5	10	10	20	750/375	1500/750	150	140.00
	10	20	20	40	1.5/ .75 K.W.	3/1.5 K.W.	150	140.00
	20	40	40	80	3/1.5 K.W.	6/3 K.W.	150	150.00
Maximum 250/125.....	30	60	60	120	5/2.5 K.W.	10/5 K.W.	100	150.00
	50	100	75	150	7.5/3.75 K.W.	15/7.5 K.W.	150	150.00
Normal 200/100.....	1	2	2	4	200/100	400/200	100	150.00
	2.5	5	5	10	500/250	1000/500	100	150.00
	5	10	10	20	1/ .5 K.W.	2/1 K.W.	100	150.00
	10	20	20	40	2/1 K.W.	4/2 K.W.	100	150.00
	20	40	40	80	4/2 K.W.	8/4 K.W.	100	160.00
Maximum 300/150.....	30	60	60	120	6/3 K.W.	12/6 K.W.	120	160.00
	50	100	75	150	10/5 K.W.	20/10 K.W.	100	160.00
Normal 300/150.....	1	2	2	4	300/150	600/300	150	150.00
	2.5	5	5	10	750/375	1500/750	150	150.00
	5	10	10	20	1.5/ .75 K.W.	3/1.5 K.W.	150	160.00
	10	20	20	40	3/1.5 K.W.	6/3 K.W.	150	150.00
	20	40	40	80	6/3 K.W.	12/6 K.W.	120	160.00
Maximum 450/225.....	30	60	60	120	10/5 K.W.	20/10 K.W.	100	160.00
	50	100	75	150	15/7.5 K.W.	30/15 K.W.	150	160.00
Normal 500/100.....	1	2	2	4	500/100	1000/200	100	170.00
	2.5	5	5	10	1250/250	2500/500	125	170.00
	5	10	10	20	2500/500	5000/1000	100	170.00
	10	20	20	40	5/1 K.W.	10/2 K.W.	100	170.00
	20	40	40	80	10/2 K.W.	20/4 K.W.	100	180.00
Maximum 600/150.....	30	60	60	120	15/3 K.W.	30/6 K.W.	150	180.00
	50	100	75	150	25/5 K.W.	50/10 K.W.	100	180.00
Normal 600/150.....	1	2	2	4	600/150	1200/300	150	175.00
	2.5	5	5	10	1500/375	3000/750	150	175.00
	5	10	10	20	3/ .75 K.W.	6/1.5 K.W.	150	175.00
	10	20	20	40	6/1.5 K.W.	12/3 K.W.	150	175.00
	20	40	40	80	12/3 K.W.	24/6 K.W.	120	185.00
Maximum 675/250.....	30	60	60	120	24/6 K.W.	40/10 K.W.	100	185.00
	50	100	75	150	30/7.5 K.W.	60/15 K.W.	150	185.00
Normal 600/300.....	1	2	2	4	600/300	1200/600	120	175.00
	2.5	5	5	10	1.5/ .75 K.W.	3/1.5 K.W.	150	175.00
	5	10	10	20	3/1.5 K.W.	6/3 K.W.	150	175.00
	10	20	20	40	6/3 K.W.	12/6 K.W.	120	175.00
	20	40	40	80	12/6 K.W.	24/12 K.W.	120	185.00
Maximum 675/450.....	30	60	60	120	20/10 K.W.	40/20 K.W.	100	185.00
	50	100	75	150	30/15 K.W.	60/30 K.W.	150	185.00
Normal 750/150.....	1	2	2	4	750/150	1500/300	150	180.00
	2.5	5	5	10	1875/375	3750/750	150	180.00
	5	10	10	20	3750/750	7500/1500	150	180.00
	10	20	20	40	7.5/1.5 K.W.	15/3 K.W.	150	190.00
	20	40	40	80	15/3 K.W.	30/6 K.W.	150	190.00
Maximum 750/250.....	30	60	60	120	25/5 K.W.	50/10 K.W.	100	190.00
	50	100	75	150	37.5/7.5 K.W.	75/15 K.W.	150	190.00
Normal 750/300.....	1	2	2	4	750/300	1500/600	150	190.00
	2.5	5	5	10	2000/800	4000/1600	160	180.00
	5	10	10	20	7500/1500	15000/3000	170	190.00
	10	20	20	40	7.5/3 K.W.	15/6 K.W.	150	190.00
	20	40	40	80	15/6 K.W.	30/12 K.W.	150	190.00
Maximum 750/450.....	30	60	60	120	25/10 K.W.	50/20 K.W.	100	190.00
	50	100	75	150	37.5/15 K.W.	75/30 K.W.	150	190.00

\*Ranges not marked K.W. read in watts.

Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON INSTRUMENTS**
**Special Model 310 Wattmeters for Very Low Power Factors**

For measurements in circuits where the power factor is very low, such as core losses in transformers, a special line of Weston Wattmeters has been designed, giving full scale deflection for 20% power factor; that is, the scale value in watts is 20% of the number of volt amperes applied.


**Model 329**

Maximum Volts	Maximum Capacity in Amperes		Watt Ranges		Number of Scale Lines	Price
	Fields in Series	Fields in Multiple	Fields in Series	Fields in Multiple		
150/75	0.5	1	15/7.5	30/15	150	\$160.00
150/75	1	2	30/15	60/30	150	160.00
150/75	2.5	5	75/37.5	150/75	150	160.00
150/75	5	10	150/75	300/150	150	160.00
150/75	10	20	300/150	600/300	150	170.00
150/75	20	40	600/300	1200/600	120	170.00
150/75	50	100	1500/750	3000/1500	150	170.00

\*These ranges are not compensated and are useful for special conditions only. Correspond before ordering.

**Weston Portable Polyphase Wattmeter  
MODEL 329**

These instruments are contained in highly polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 17½ lbs. Dimensions are 9½ x 10½ x 8½ inches over all.

This form of instrument really consists of two single phase wattmeters, electrically independent, but having their movable coils mounted on a common shaft, so that they rotate together. Each coil, however, moves in its own system of field coils.

**SCALES**

The scales are uniform throughout their entire length, and are 5¼ inches long.

The pointers are equipped with simple zero setting devices and are of the Weston triangular truss type with knife edges. To prevent parallax errors mirrors are provided.

**List Prices of Model 329 Polyphase Wattmeters**

Volts	Amperes				*Watt Ranges		Number of Scale Lines	List Price
	Normal		Maximum		Field Coils in Series	Field Coils in Multiple		
	Series	Multiple	Series	Multiple				
Normal 100/50..... Maximum 150/75.....	1	2	2	4	200/100	400/200	100	\$220.00
	2.5	5	5	10	500/250	1000/500	100	220.00
	5	10	10	20	1/5 K.W.	2/1 K.W.	100	220.00
	10	20	20	40	2/1 K.W.	4/2 K.W.	100	230.00
Normal 150/75..... Maximum 250/125.....	1	2	2	4	300/150	600/300	150	220.00
	2.5	5	5	10	750/375	1500/750	150	220.00
	5	10	10	20	1.5/75 K.W.	3/1.5 K.W.	150	220.00
	10	20	20	40	3/1.5 K.W.	6/3 K.W.	150	230.00
Normal 200/100.... Maximum 300/150....	1	2	2	4	400/200	800/400	100	230.00
	2.5	5	5	10	1/5 K.W.	2/1 K.W.	100	230.00
	5	10	10	20	2/1 K.W.	4/2 K.W.	100	230.00
	10	20	20	40	4/2 K.W.	8/4 K.W.	100	240.00
Normal 300/150.... Maximum 450/250....	1	2	2	4	600/300	1200/600	120	230.00
	2.5	5	5	10	1.5/75 K.W.	3/1.5 K.W.	150	230.00
	5	10	10	20	3/1.5 K.W.	6/3 K.W.	150	230.00
	10	20	20	40	6/3 K.W.	12/6 K.W.	120	240.00
Normal 500/100.... Maximum 600/150....	1	2	2	4	1000/200	2000/400	100	250.00
	2.5	5	5	10	2500/500	5000/1000	100	250.00
	5	10	10	20	5/1 K.W.	10/2 K.W.	100	250.00
	10	20	20	40	10/2 K.W.	20/4 K.W.	100	260.00
Normal 600/150.... Maximum 675/250....	1	2	2	4	1200/300	2400/600	120	255.00
	2.5	5	5	10	3/75 K.W.	6/1.5 K.W.	150	255.00
	5	10	10	20	6/1.5 K.W.	12/3 K.W.	150	255.00
	10	20	20	40	12/3 K.W.	24/6 K.W.	120	265.00
Normal 600/300.... Maximum 675/450....	1	2	2	4	1200/300	2400/600	120	255.00
	2.5	5	5	10	1.2/75 K.W.	2.4/1.2 K.W.	150	255.00
	5	10	10	20	6/3 K.W.	12/6 K.W.	120	255.00
	10	20	20	40	12/6 K.W.	24/12 K.W.	120	255.00
Normal 750/150.... Maximum 750/250....	1	2	2	4	1500/300	3000/600	150	260.00
	2.5	5	5	10	3750/750	7500/1500	150	260.00
	5	10	10	20	7.5/1.5 K.W.	15/3 K.W.	150	260.00
	10	20	20	40	15/3 K.W.	30/6 K.W.	150	270.00
Normal 750/300.... Maximum 750/450....	1	2	2	4	1500/300	3000/1200	150	260.00
	2.5	5	5	10	3750/1500	7500/3000	150	260.00
	5	10	10	20	7.5/3 K.W.	15/6 K.W.	150	260.00
	10	20	20	40	15/6 K.W.	30/12 K.W.	150	270.00

\*Ranges not marked K.W. read in watts.

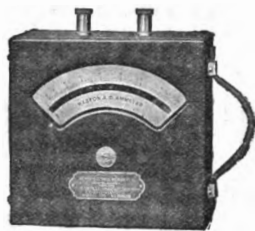
Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.



## WESTON INSTRUMENTS



Model 155 Voltmeter



Model 155 Ammeter

### Voltmeters and Ammeters

#### Model 155 Portable

##### For Alternating Current

These instruments are of the Weston electromagnetic type, in which all the disadvantages and errors of the soft-iron type, previously supposed to be inherent, have been either eliminated or so far reduced as to be practically negligible. The indications of these Weston instruments are accurate within 1 per cent., independent of changes in temperature, frequency or wave form throughout the range of commercial practice. The scales are open and fairly uniform throughout about  $\frac{2}{3}$  of the total range of deflection; therefore, the accuracy of reading within the working range is greater than it would be with a uniform scale. The indications are also dead beat and will instantly and accurately follow every change in the value of the quantity being measured.

#### MODEL 155 AC—PORTABLE VOLTMETERS

Range in Volts	*List Price Each	Range in Volts	*List Price Each
75.....	\$37.00	500.....	\$53.00
125.....	37.00	600.....	55.00
150.....	37.50	750.....	60.00
300.....	45.00		

#### MODEL 155 AC—PORTABLE AMMETERS

Range in Amperes	*List Price Each	Range in Amperes	*List Price Each
1.....	\$35.50	75.....	\$35.00
2.....	35.00	100.....	35.00
3.....	34.00	150.....	36.00
5.....	34.00	200.....	37.00
10.....	34.00	250.....	37.50
15.....	34.00	300.....	38.00
25.....	34.00	400.....	42.00
50.....	35.00	500.....	46.00

#### MODEL 155 AC—PORTABLE MIL-AMMETERS

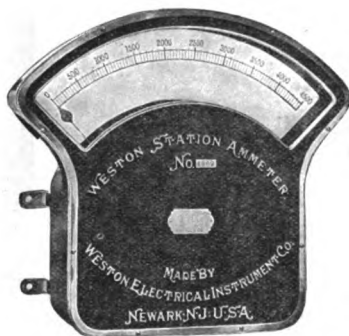
Mil-Amperes	*List Price Each	Mil-Amperes	*List Price Each
75.....	\$35.50	500.....	\$35.50
150.....	35.50	750.....	35.50
250.....	35.50		

### Leather Carrying Cases

#### For Model No. 155 Instruments

All ammeters, mil-ammeters and also voltmeters, up to and including 300 volts, provided with leather cases at an additional price of \$7.00. Voltmeters with a range above 300 volts, and not greater than 750 volts, provided with leather carrying cases at an additional cost of \$9.00.

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON SWITCHBOARD INSTRUMENTS**


Model 11 Ammeter

**Weston Illuminated Dial Station Ammeters, Model 11  
 With Shunts**
**For Direct Current**

The cases for these meters are supplied in two patterns. The one is intended to be attached by means of two brackets directly to and projecting from the front of the switchboard. The other, known as "flush type," is designed to be countersunk so that the front of the instrument is practically flush with the face of the board.

The cases are regularly finished in the following styles, but other finishes will be supplied on special order.

No. 2 finish.—Border of case and face of letters nickel-plated and polished; background of letters and back case dead-black japan. This is a neat and durable finish and one we highly recommend for general use.

No. 3 finish.—Border of front and face of letters nickel-plated and polished; background of letters dead nickel matte; all parts of back case in sight nickel-plated and polished.

Each instrument has one pair of binding-posts to which the shunt leads are to be connected, and another pair for connecting the lamp.

Range in Amperes	Value of Each Scale Division in Amperes	*List Price of Instrument with Shunt	Range in Amperes	Value of Each Scale Division in Amperes	*List Price of Instrument with Shunt	Range in Amperes	Value of Each Scale Division in Amperes	*List Price of Instrument with Shunt
200	2	\$159.00	1000	10	\$168.00	4000	30	\$213.00
250	2	159.00	1200	10	170.00	4500	40	228.00
300	2	159.50	1500	10	181.50	5000	50	243.00
400	5	160.00	2000	20	190.50	6000	50	258.00
500	5	162.00	2500	20	193.50	7000	50	273.00
600	5	164.00	3000	20	198.00	8000	100	303.00
750	5	166.00	3500	20	204.00	10000	100	333.00

**Shunts for All Types of Switchboard Ammeters**

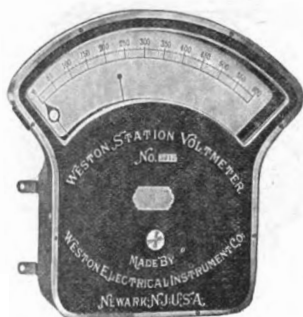
Rating in Amperes	*List Price Shunts Alone	Rating in Amperes	*List Price Shunts Alone	Rating in Amperes	*List Price Shunts Alone
200	\$6.00	1000	\$15.00	4000	\$60.00
250	6.00	1200	17.00	4500	75.00
300	6.50	1500	28.50	5000	90.00
400	7.00	2000	37.50	6000	105.00
500	9.00	2500	40.50	7000	120.00
600	11.00	3000	45.00	8000	150.00
750	13.00	3500	51.00	10000	180.00

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.  
 Measuring and Testing Instruments

## WESTON SWITCHBOARD INSTRUMENTS

### Weston Illuminated Dial Station Voltmeters, Model 11

For Direct Current



Model 11 Voltmeter

Range in Volts	Value of Each Scale Division in Volts	*List Price Each	Range in Volts	Value of Each Scale Division in Volts	*List Price Each
125	1	\$150.00	3250	25	\$280.00
150	1	152.00	3500	25	300.00
180	2	154.00	4000	50	320.00
250	2	156.00	4500	50	340.00
300	2	158.00	5000	50	360.00
600	5	160.00	6000	50	390.00
750	5	162.00	6500	50	410.00
1000	10	200.00	7000	50	420.00
1500	10	220.00	7500	50	440.00
2000	20	240.00	8000	100	460.00
2500	20	260.00	9000	100	500.00
3000	25	270.00	10000	100	550.00

These prices are for No. 2 finish, dead-black japan with nickel trimmings. For No. 3 finish, all nickel-plated, add \$9.00.

These instruments will be supplied for mounting with the fronts flush with the switchboard (designated flush type) when so ordered, at the same prices.

### Weston Illuminated Dial Station Model 9 Ammeters (With Shunts)

For Direct Current

These instruments are similar in appearance and are in every respect equal to the Model 11, as regards construction and accuracy. They are, however, of smaller dimensions, and are designed for use in plants where an illuminated-dial instrument is desired, but space is limited.

The cases for these instruments are supplied in two patterns. The one is intended to be attached directly to and projecting from the front of the switchboard. The other, known as the "flush type," is designed to be countersunk so that the front of the instrument is practically flush with the face of the board.

They are regularly supplied in No. 2 and No. 3 finish, as described under Model 11, but may be had in special finishes, at a slight addition in cost.



Model 9 Ammeter

Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each	Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each
200	2	\$119.00	750	5	\$126.00
250	2	119.00	1000	10	128.00
300	2	119.50	1200	10	130.00
400	5	120.00	1500	10	141.50
500	5	122.00	2000	20	150.50
600	5	124.00	2500	20	153.50

Flush type will be furnished at same price if specially ordered.

These prices are for No. 2 finish (dead-black japan with nickel trimmings).

For No. 3 finish (all nickel-plated), add \$5.00.

### Weston Illuminated Dial Station Model 9 Voltmeters

For Direct Current

Range in Volts	Value of Each Scale Division in Volts	*List Price Each	Range in Volts	Value of Each Scale Division in Volts	*List Price Each
0 to 85	1	\$110.00	0 to 150	1	\$124.00
0 to 100	1	112.00	0 to 250	2	128.00
0 to 125	1	116.00	0 to 300	2	132.00
0 to 135	1	120.00			

Flush type will be furnished at same price if specially ordered.

These prices are for No. 2 finish (dead-black japan with nickel trimmings).

For No. 3 finish (all nickel-plated), add \$5.00.

\*Delivery at G. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON INSTRUMENTS**

 Model 57 Ammeter  
 Range, 700 Amperes

 Model 57 Voltmeter  
 Range, 120 Amperes

**Model 57 Round Pattern Station Ammeters and Voltmeters**

For Direct Current

These instruments are made in three patterns. Regular, for front of board connection. Back connection, in which the binding-posts are carried through to the rear of the switchboard. Flush type, in which a flange is provided for the front, allowing the entire body of the instrument to pass through for connection in the rear of the switchboard.

**MODEL 57 DC AMMETERS**

Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each	Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each
1.....	0.01	\$50.00	300.....	2	\$56.50
5.....	0.05	50.00	400.....	5	57.00
10.....	0.1	50.00	500.....	5	59.00
15.....	0.1	50.00	600.....	5	61.00
25.....	0.2	50.00	750.....	5	63.00
50.....	0.5	51.00	1000.....	10	65.00
75.....	0.5	52.00	1200.....	10	67.00
100.....	1	53.00	1500.....	10	78.50
150.....	1	54.00	2000.....	20	87.50
200.....	2	56.00	2500.....	20	90.50
250.....	2	56.50			

The lower ranges up to 75 amperes are self-contained, the shunts being an integral part of the instrument. For ranges above 75 amperes the shunt is detachable and substantially the same as that for the illuminated-dial instruments, excepting that when specially ordered these instruments will be furnished self-contained for ranges up to 200 amperes.

**MODEL 57 DC VOLTMETERS**

Range in Volts	Value of Each Scale Division Volts	*List Price Each	Range in Volts	Value of Each Scale Division Volts	*List Price Each
3.....	0.02	\$50.00	125.....	1	\$56.50
6.....	0.05	50.00	150.....	1	59.00
15.....	0.1	50.00	250.....	2	63.00
25.....	0.2	52.00	300.....	2	65.00
50.....	0.5	53.00	600.....	5	70.00
75.....	0.5	54.50	750.....	5	74.00

These prices are for No. 2 finish (dead-black japan with nickel trimmings). For No. 3 finish (al nickel-plated), add \$4.00. Any of the instruments in the above list will be furnished with back connection or flush-type cases when specified in order.

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.  
 Measuring and Testing Instruments

# WESTON INSTRUMENTS



Model 24 Ammeter



Model 24 Voltmeter

## Weston Round Pattern Model 24 Station Instruments

For Direct Current

These instruments are made in three types to conform with the Model 57 instruments, i. e., regular, back connection and flush type. Are supplied in No. 2 or No. 3 finish, but special finishes may be obtained at a slight advance in cost.

### MODEL 24 SELF-CONTAINED AMMETERS

Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each
0 to 1	0.02	\$30.00
0 to 5	0.1	30.00
0 to 10	0.2	30.00
0 to 15	0.2	31.00
0 to 25	0.5	31.00
0 to 50	1	31.50
0 to 80	2	31.50
0 to 100	2	32.00
0 to 130	2	33.00
0 to 150	2	33.00
0 to 200	4	34.00

These ammeters are regularly furnished with internal shunts up to and including 200 amperes. They will, however, be furnished with detached shunts when specified in order.

These prices are for No. 2 finish (dead-black japan with nickel trimmings). For No. 3 finish (all nickel-plated), add \$3.00. Any of the instruments in the above list will be furnished with back connections or flush-type cases when specified in order.

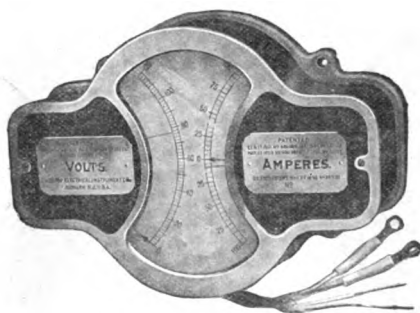
### MODEL 24 VOLTMETERS

Range in Volts	Value of Each Scale Division in Volts	*List Price Each
0 to 3	0.05	\$31.00
0 to 5	0.1	31.00
0 to 6	0.1	31.50
0 to 10	0.2	32.00
0 to 15	0.2	32.00
0 to 25	0.5	32.00
0 to 50	1	32.00
0 to 80	2	32.00
0 to 130	2	33.00
0 to 150	2	34.00
0 to 250	5	39.00
0 to 300	5	41.00
0 to 600	8	53.00

These prices are for No. 2 finish (dead-black japan with nickel trimmings). For No. 3 finish (all nickel-plated), add \$3.00. Any of the instruments in the above list will be furnished with back connections or flush-type cases when specified in order.

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

Measuring and Testing Instruments

**WESTON INSTRUMENTS**


Models 38 and 39 Duplex Instruments (Direct Current)  
 Showing a Model 39 Instrument

**Weston Duplex Instruments, Model 38 and Model 39**
**For Direct Current**

These instruments are called "duplex" because they consist of a voltmeter and an ammeter combined in one case.

**MODEL 39**

This model has a well designed and carefully finished aluminum case, which closely surrounds the operative parts. The use of an aluminum case secures minimum weight as well as a much smaller size than is possible with Model 38, and as the case is practically waterproof, this model is well adapted for use where accidental exposure to the weather or to dampness would be likely to occur.

This instrument was originally designed for automobile service, and extreme care has been taken in its construction to enable it to stand without injury the constant vibration to which such instruments are subjected when used on vehicles.

The zero mark on the ammeter scale may be located at any point.

Price of ammeters with scales having zero in center of scale, or in any other part of scale, will be the same as for ammeters of regular constructions of same type with a range equal to the higher reading on the special scale.

The dimensions and weight of this model are as follows:

Length . . . . .	9½ inches.	Height (or Depth) . . . . .	3¼ inches.
Width . . . . .	7 inches.	Weight (without Shunt) . . . . .	.8 lb.

**MODEL 38**

The interior parts of this model are similar to those used in Model 39, but the scale and pointer are larger. The case is made of cast iron, is not waterproof and does not closely surround the working parts of the instrument. The difference in the size of the case and the material of which it is made necessarily makes the 38 model much heavier than the 39. The dimensions and weight of the 38 model are as follows:

Length . . . . .	11 inches.	Height (or Depth) . . . . .	3½ inches.
Width . . . . .	8½ inches.	Weight (without Shunt) . . . . .	17 lb.

The Model 38 is well adapted for use where the existence of powerful magnetic fields would render it impossible to use the 39 model. The function of the cast-iron case is to shield the instrument from external fields, and this it does in a most effective manner. In both forms of instruments the workmanship is of the highest grade.

**Price List of Models 38 and 39 Instruments**

Range for Ampere Scale in Amperes	75 Volts	150 Volts	300 Volts	600 Volts
	*List Price	*List Price	*List Price	*List Price
10 . . . . .	\$70.00	\$70.00	\$83.50	\$88.00
25 . . . . .	70.00	70.00	83.50	88.00
50 . . . . .	70.00	70.00	84.50	89.00
100 . . . . .	70.00	70.00	86.00	90.50
150 . . . . .	70.00	70.00	87.00	91.50
200 . . . . .	79.50	83.50	89.00	93.50
300 . . . . .	80.00	84.00	89.50	94.00
400 . . . . .	80.50	84.50	90.00	94.50
500 . . . . .	82.00	86.00	91.50	96.00

If double scales should be desired in the voltmeter, any ranges below those given in the list will be supplied at an extra charge of \$5.00 in addition to the price for the highest range.

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

# WESTON INSTRUMENTS



Model 159

## Weston Eclipse Voltmeters and Ammeters

### For Direct Current

These instruments were given the designation "Eclipse" to distinguish them from the well-known moving coil Weston instruments. The designation is also very appropriate as these new instruments represent a distinct advance in the art of instrument design. They belong to the "soft-iron" or "electromagnetic" type, and yet they have none of the many disadvantages and errors commonly associated with instruments of this class. They possess a degree of accuracy and general electrical excellence hitherto wholly unknown, and heretofore deemed impossible of attainment with this type of instrument, and a degree of excellence in mechanical design and construction previously unapproached. The indications are substantially unaffected by temperature changes, whether due to changes in the room temperature or to the heating effect of the current through the instrument. Furthermore, the hysteresis or lag error is entirely negligible at the working part of the scale. This last attainment is unprecedented. Eclipse instruments are made in two models, namely: Model 160 and 159, the only difference being in the dimensions.

Model	Diameter, Inches	Depth, Inches	Length of Scale, Inches
160	9.56	3.15	6.5
159	7.25	3.15	5.25

### ECLIPSE MODEL 159 AMMETERS

Range in Amperes	*List Price	Range in Amperes	*List Price
1.....	\$24.00	75.....	\$25.00
2.....	24.00	100.....	26.00
3.....	23.50	150.....	26.00
5.....	23.00	200.....	27.00
10.....	23.00	250.....	28.00
15.....	23.00	300.....	29.00
25.....	23.00	400.....	30.00
50.....	25.00	500.....	32.00

### ECLIPSE MODEL 159 VOLTMETERS

Range in Volts	*List Price	Range in Volts	*List Price
75.....	\$24.00	500.....	\$32.00
125.....	24.00	600.....	34.00
150.....	24.00	750.....	36.00
250.....	29.00		

Instruments with a range above 150 volts are provided with external resistances.

**W. E. B. Factory, Newark, N. J.** For warehouse deliveries write nearest house.

**WESTON INSTRUMENTS**

**Model 160 Voltmeter**

**Model 214  
Frequency Indicator**
**Weston Eclipse Voltmeters and Ammeters**
**ECLIPSE MODEL 160 D. C. VOLTMETERS**

Range in Volts	*List Price Each	Range in Volts	*List Price Each
75 .....	\$32.00	500 .....	\$41.00
125 .....	32.00	600 .....	43.00
150 .....	32.00	750 .....	45.00
300 .....	36.00		

Voltmeters with a range above 300 volts are provided with external resistances.

**ECLIPSE MODEL 160 AMMETERS**

Range in Amperes	*List Price Each	Range in Amperes	*List Price Each
1 .....	\$31.00	75 .....	\$32.00
2 .....	31.00	100 .....	33.00
3 .....	30.50	150 .....	33.00
5 .....	30.00	200 .....	34.00
10 .....	30.00	250 .....	35.00
15 .....	30.00	300 .....	36.00
25 .....	30.00	400 .....	37.00
50 .....	32.00	500 .....	39.00

**Weston Frequency Meters**
**MODEL 214**

These instruments are of a new type. Their indications are practically independent of changes of temperature voltage and wave form such as may be encountered in the commercial circuits of to-day. All meters are made for one voltage (100 to 125 volts), and for voltage ranges outside of this potential transformers must be used. Every frequency meter is provided with an external box which contains reactors and resistors.

Cycles	*List Price Each
20 .....	\$120.00
25 .....	120.00
40 .....	120.00
60 .....	120.00
125 .....	120.00
133 .....	120.00

\* Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.



**WESTON INSTRUMENTS**



**Model 151 Voltmeters and Ammeters**

**For Alternating Current  
Dimensions Model 151**

Model	Diameter, Inches	Depth, Inches	Length of Scale Arc, Inches
151	9.506	3.150	6.5

These instruments are of the "soft iron" or "electromagnetic" type; however, they have unique electrical and mechanical characteristics, and in these respects they may be said to constitute an entirely new type of instrument. The indications of these instruments are accurate within less than 1 per cent., independent of changes in temperature, frequency or wave form within the range of commercial practice. They are equally as dead beat as the Weston moving coil D. C. instruments, and have scales that are open and fairly uniform throughout about  $\frac{1}{2}$  of the total range of deflection.

Voltmeters with a range above 300 volts are provided with external resistance coil.

Every ammeter is tested before shipment for insulation with 4,600 volts for one minute.

The case for each ammeter is provided with a "ground terminal," which must (in order to insure safety to the user) be connected to earth when the potential difference of circuits exceeds 200 volts. When properly erected, the ammeters are perfectly safe for use on circuits operating on a potential difference of 2,300 volts, but must be used with transformers on circuits of higher potential difference. Although there is economy in first cost and a slight advantage in accuracy in so doing, we are not in full accord with the practice of bringing to the front of the switchboard any device directly connected to the high potential circuits.

Transformers must be used on all circuits carrying over 500 amperes, and we recommend a value of 5 amperes for the secondary, and will calibrate the instrument so that it will be direct reading.

**MODEL 151 AC VOLTMETERS**

Range in Volts	*List Price, Each	Range in Volts	*List Price, Each
75.....	\$37.00	500.....	\$53.00
125.....	37.00	600.....	55.00
150.....	37.50	750.....	60.00
300.....	45.00		

**MODEL 151 AC AMMETERS**

Range in Amps.	*List Price, Each	Range in Amps.	*List Price, Each
1.....	\$35.50	50.....	\$35.00
2.....	35.00	75.....	35.00
3.....	34.00	100.....	35.00
5.....	34.00	150.....	36.00
10.....	34.00	200.....	37.00
15.....	34.00	250.....	37.50
20.....	34.00	300.....	38.00
25.....	34.00	400.....	39.00
30.....	34.00	500.....	40.00
40.....	35.00		

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON INSTRUMENTS**

**Model 156**
**Weston Voltmeters and Ammeters**
**For Alternating Current**

These instruments are of the "soft iron" or "electromagnetic" type; however, they have unique electrical and mechanical characteristics, and in these respects they may be said to constitute an entirely new type of instrument. The indications of these instruments are accurate within less than 1 per cent. independent of changes in temperature, frequency or wave form within the range of commercial practice. They are equally as dead beat as the Weston moving coil D. C. instruments and have scales that are open and fairly uniform throughout about  $\frac{1}{2}$  of the total range of deflection.

Voltmeters with a range above 300 volts are provided with external resistance coil.

Every ammeter is tested before shipment for insulation with 4,600 volts for one minute.

The case for each ammeter is provided with a "ground terminal," which must (in order to insure safety to the user) be connected to earth when the potential difference of circuits exceeds 200 volts. When properly erected, the ammeters are perfectly safe for use on circuits operating on a potential difference of 2,300 volts, but must be used with transformers on circuits of higher potential difference. Although there is economy in first cost and a slight advantage in accuracy in so doing, we are not in full accord with the practice of bringing to the front of the switchboard any device directly connected to the high potential circuits.

Transformers must be used on all circuits carrying over 500 amperes, and we recommend a value of 5 amperes for the secondary, and will calibrate the instrument so that it will be direct reading.

These instruments are made in two models, which differ only in dimensions.

**MODEL 156 A. C. SWITCHBOARD VOLTMETERS**

Range in Volts	*List Price Each	Range in Volts	*List Price Each
75 .....	\$29.00	500 .....	\$39.00
125 .....	29.00	600 .....	42.00
150 .....	29.50	750 .....	47.00
300 .....	37.00		

Voltmeters above 150 volts provided with external resistances.

**MODEL 156 A. C. SWITCHBOARD AMMETERS**

Range in Amperes	*List Price Each	Range in Amperes	*List Price Each
1 .....	\$28.00	50 .....	\$27.50
2 .....	27.50	75 .....	27.50
3 .....	27.00	100 .....	27.50
5 .....	27.00	150 .....	28.50
10 .....	27.00	200 .....	29.50
15 .....	27.00	250 .....	30.00
20 .....	27.00	300 .....	31.00
25 .....	27.00	400 .....	33.00
30 .....	27.00	500 .....	35.00
40 .....	27.50		

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.  
 Measuring and Testing Instruments

# WESTON INSTRUMENTS



**Model 167**  
**Single Phase Wattmeter**

## Weston Wattmeters

### For Direct Current, Single Phase and Polyphase Circuits

These wattmeters have numerous advantages over any type previously built. They may be used with equal accuracy and without change of calibration on direct-current circuits or alternating-current circuits of any frequency, power-factor or wave form within the limits of usual commercial practice. The scale is uniform throughout the entire range of deflection. These wattmeters are made in two models.

### DIRECT CURRENT AND SINGLE PHASE WATTMETERS

#### Model 167

All ranges are back connected. Meters above 300 volts range have external resistance box. For ranges above 750 volts potential transformers are used and for current ranges above 100 amperes current transformers must be used. For use with current transformers the 5-ampere range instrument is recommended. These instruments may also be had in full flush cases for a slight extra charge.

#### 100 to 150 Volts

Amperes	Scale	*List Price	Amperes	Scale	*List Price
1.....	150 watts	\$100.00	20.....	2 kilowatts	\$100.00
2.....	300 watts	100.00	20.....	3 kilowatts	100.00
5.....	500 watts	100.00	50.....	5 kilowatts	100.00
5.....	750 watts	100.00	50.....	7.5 kilowatts	100.00
10.....	1 kilowatt	100.00	100.....	10 kilowatts	112.00
10.....	1.5 kilowatts	100.00	100.....	15 kilowatts	112.00

#### 200 to 300 Volts

1.....	300 watts	\$112.00	20.....	6 kilowatts	\$112.00
2.....	600 watts	112.00	20.....	7.5 kilowatts	112.00
5.....	1 kilowatt	112.00	50.....	10 kilowatts	112.00
5.....	1.5 kilowatts	112.00	50.....	15 kilowatts	112.00
10.....	2 kilowatts	112.00	100.....	20 kilowatts	122.00
10.....	3 kilowatts	112.00	100.....	30 kilowatts	122.00
20.....	4 kilowatts	112.00			

#### 400 to 600 Volts

1.....	600 watts	\$122.00	20.....	8 kilowatts	\$122.00
2.....	1.2 kilowatts	122.00	20.....	12 kilowatts	122.00
5.....	2 kilowatts	122.00	50.....	20 kilowatts	122.00
5.....	3 kilowatts	122.00	50.....	30 kilowatts	122.00
10.....	4 kilowatts	122.00	100.....	40 kilowatts	134.00
10.....	6 kilowatts	122.00	100.....	60 kilowatts	134.00

#### 600 to 750 Volts

1.....	750 watts	\$134.00	20.....	10 kilowatts	\$134.00
2.....	1.5 kilowatts	134.00	20.....	15 kilowatts	134.00
5.....	2.5 kilowatts	134.00	50.....	25 kilowatts	134.00
5.....	4 kilowatts	134.00	50.....	40 kilowatts	134.00
10.....	5 kilowatts	134.00	100.....	50 kilowatts	150.00
10.....	7.5 kilowatts	134.00	100.....	75 kilowatts	150.00

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON INSTRUMENTS**

**Model 216, Full-Front Type,  
Polyphase Wattmeter**

**Model 216, Semi-Flush Type,  
Polyphase Wattmeter**
**Polyphase Wattmeters**
**Model 216**

These instruments have precisely the same characteristics as Model 167. They are regularly furnished with either one of two styles of case, namely: full-front and semi-flush. The semi-flush type projects beyond the front of the board just sufficiently to bring the front of the instrument in the same plane with other Weston A. C. switchboard instruments. Full flush instruments may be had at slight extra cost.

**MODEL 216, SEMI-FLUSH OR FULL-FRONT CASE; TWO-PHASE OR THREE-PHASE**
**100 to 150 Volts**

Amperes	Scale	*List Price	Amperes	Scale	*List Price
5 .....	1 kilowatt	\$140.00	20 .....	7.5 kilowatts	\$140.00
5 .....	1.5 kilowatts	140.00	50 .....	10 kilowatts	140.00
10 .....	2 kilowatts	140.00	50 .....	15 kilowatts	140.00
10 .....	3 kilowatts	140.00	100 .....	20 kilowatts	150.00
20 .....	4 kilowatts	140.00	100 .....	30 kilowatts	150.00
20 .....	6 kilowatts	140.00			

**200 to 300 Volts**

5 .....	2 kilowatts	\$150.00	20 .....	12 kilowatts	\$150.00
5 .....	3 kilowatts	150.00	50 .....	20 kilowatts	150.00
10 .....	4 kilowatts	150.00	50 .....	30 kilowatts	150.00
10 .....	6 kilowatts	150.00	100 .....	40 kilowatts	160.00
20 .....	8 kilowatts	150.00	100 .....	60 kilowatts	160.00

**400 to 600 Volts**

5 .....	4 kilowatts	\$160.00	20 .....	30 kilowatts	\$160.00
5 .....	6 kilowatts	160.00	50 .....	40 kilowatts	160.00
10 .....	8 kilowatts	160.00	50 .....	60 kilowatts	160.00
10 .....	12 kilowatts	160.00	100 .....	80 kilowatts	170.00
20 .....	20 kilowatts	160.00	100 .....	120 kilowatts	170.00

**600 to 750 Volts**

5 .....	5 kilowatts	\$170.00	20 .....	30 kilowatts	\$170.00
5 .....	7.5 kilowatts	170.00	50 .....	50 kilowatts	170.00
10 .....	10 kilowatts	170.00	50 .....	75 kilowatts	170.00
10 .....	15 kilowatts	170.00	100 .....	100 kilowatts	180.00
20 .....	20 kilowatts	170.00	100 .....	150 kilowatts	180.00

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.  
**Measuring and Testing Instruments**

# WESTON INSTRUMENTS



Model 226  
Synchroscope



Model 215  
Power-Factor Meter

## Weston Synchroscope

### MODEL 226

This synchroscope is of a distinctly new type. It consists of a phase angle indicator mounted with its pointer behind a ground glass scale and illuminated by a small synchronizing lamp installed behind the pointer and connected to synchronize light. A difference in frequency between two machines causes the pointer to swing back and forth, but owing to the fact that the lamp is lighted only half the time the pointer is seen only during every other swing and thus appears to rotate continuously in one direction. When the machines have the same frequency, but are out of phase, the pointer comes to rest at one side or the other of the middle of the scale. Perfect synchronism is indicated by the pointer remaining at rest in the middle of the scale with the lamp lighted.

The pointer is only visible when the synchronizing lamp is lighted. The indications of the instrument are absolutely infallible.

Every synchroscope includes a lamp transformer, a condenser and a resistor mounted in a separate box. These instruments are made only for one voltage (100 to 125 volts), and when used for other voltages they must be operated with potential transformers. The instruments can be calibrated for any frequency.

#### Description

\*List Price  
Complete

Made for 110 to 125 volts and any commercial frequency up to 150 cycles. Specify the voltage and frequency in every case.

\$125.00

## Weston Power-Factor Meter

### MODEL 215

By virtue of a novel mode of construction the Weston Power-Factor Meter has been rendered practically perfect in its operation. From  $\frac{1}{2}$  load to full load it indicates the true phase angle to within 1 per cent, independent of any variable conditions found on ordinary commercial circuits. Polyphase power-factor meters may be used on any commercial frequency. Single phase meters require a phase-splitting device and, therefore, must be calibrated for the frequency at which they are to operate. The following ranges are regularly carried in stock: 25, 40, 50, 60, 125 and 133 cycles per second. Polyphase power-factor meters are arranged for the following systems: two-phase, three-wire; two-phase, four-wire; and three-phase, three-wire. Meters above 300-volt range are equipped with external resistance box. All meters have the same kind of scale, reading from 0.50 lag to 0.50 lead. Special scales for power-factors as low as 0.30 may be had at slight extra cost. This instrument may also be arranged as a sine or cosine meter.

#### 100 to 150 Volts

#### 200 to 300 Volts

Ampere	*List Price Polyphase	*List Price Single Phase	Ampere	*List Price Polyphase	*List Price Single Phase
5.....	\$110.00	\$130.00	5.....	\$120.00	\$140.00
10.....	110.00	130.00	10.....	120.00	140.00
20.....	120.00	140.00	20.....	130.00	150.00
50.....	120.00	140.00	50.....	130.00	150.00
100.....	130.00	150.00	100.....	140.00	160.00

#### 400 to 600 Volts

#### 600 to 750 Volts

5.....	\$140.00	\$160.00	5.....	\$150.00	\$170.00
10.....	140.00	160.00	10.....	150.00	170.00
20.....	150.00	170.00	20.....	160.00	180.00
50.....	150.00	170.00	50.....	160.00	180.00
100.....	160.00	180.00	100.....	170.00	190.00

W. E. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON MINIATURE PRECISION INSTRUMENTS**

For Direct Current

**Model 267 Switchboard Voltmeters, Ammeters and Mil-Ammeters**

This group of instruments consists of a variety of ranges of small switchboard ammeters and voltmeters suitable for use in small isolated lighting plants, small power plants, signal systems, battery charging panels and for all kinds of service where small switchboard indicating instruments are needed.


 Model 267 Voltmeter  
Front View

 Model 267 Voltmeter  
Rear View

 Model 267 Ammeter  
Front View

 Model 267 Ammeter  
Rear View

 Model 268 Volt-Ammeter  
Front View

 Model 268 Volt-Ammeter  
Rear View

**MODEL 267 SWITCHBOARD VOLTMETERS**

Range	*List Price Each	Range	*List Price Each	Range	*List Price Each
1	\$21.00	7.5	\$21.00	50	\$21.00
1.2	21.00	8	21.00	60	21.00
1.5	21.00	10	21.00	75	21.00
2	21.00	12	21.00	80	21.00
2.5	21.00	15	21.00	100	21.00
3	21.00	20	21.00	120	21.00
4	21.00	25	21.00	130	21.00
5	21.00	30	21.00	150	21.00
6	21.00	40	21.00		

**MODEL 267 SWITCHBOARD AMMETERS**

1	\$21.00	4	\$21.00	12	\$21.00
1.2	21.00	5	21.00	15	21.00
1.5	21.00	6	21.00	20	21.00
2	21.00	7.5	21.00	25	21.00
2.5	21.00	8	21.00	30	21.00
3	21.00	10	21.00		

**MODEL 267 MIL-AMMETERS**

NOTE: For higher ampere readings the Model 267 will be furnished as a milli-voltmeter adjusted to external shunts. Information and prices relative to such instruments will be supplied upon application.

**Dimensions.**—Vertical, 3.35 inches; horizontal, 4.1 inches; depth, 1.1 inches.

**MODEL 268 SWITCHBOARD VOLT-AMMETERS**

These instruments are adapted for use in electrolytic work, charging and discharging small storage batteries, and for service in connection with direct-current ignition systems for gas and gasoline engines, and in all classes of work in which a single instrument is necessary for indicating either potential difference or current.

Range		*List Price Each	Range		*List Price Each
Volts	Amperes		Volts	Amperes	
10-0-15	10-0-15	\$32.00	5-0-15	10-0-30	\$32.00
10-0-15	2-0-3	32.00	5-0-10	5-0-10	32.00
10-0-15	20-0-30	32.00	10-0-20	2-0-4	32.00
7.5-0-15	7.5-0-15	32.00	5-0-10	1-0-2	32.00
7.5-0-15	15-0-30	32.00	5-0-10	10-0-20	32.00
7.5-0-15	1.5-0-3	32.00	10-0-20	5-0-10	32.00
1.5-0-3	7.5-0-15	32.00	10-0-20	1-0-2	32.00
5-0-15	1-0-3	32.00	10-0-20	10-0-20	32.00

**Dimensions.**—Vertical, 4.25 inches; horizontal, 4.2 inches; depth, 1.35 inches.

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

# WESTON MINIATURE PRECISION INSTRUMENTS

For Direct Current

## Model 280—Portable Instruments

These instruments are all the same size and can be carried in an ordinary coat pocket. They are made in a great many varieties of ranges and are admirably adapted to all kinds of commercial and experimental testing that falls within their limits of e. m. f. and current.



Single Range Voltmeter



Double Range Voltmeter



Triple Range Voltmeter



Single Range Ammeter



Double Range Ammeter



Triple Range Ammeter

### SINGLE RANGE MILLI-VOLTMETERS

Volts	List Price Each	Volts	List Price Each	Volts	List Price Each
† 50	\$25.00	†120	\$25.00	†300	\$25.00
† 60	25.00	†130	25.00	†400	25.00
† 75	25.00	†150	25.00	†500	25.00
† 80	25.00	†200	25.00	†600	25.00
†100	25.00	†250	25.00	†750	25.00

### SINGLE RANGE VOLTMETERS

1	\$25.00	7.5	\$25.00	50	\$25.00
1.2	25.00	8	25.00	60	25.00
1.5	25.00	10	25.00	75	25.00
2	25.00	12	25.00	80	25.00
2.5	25.00	15	25.00	100	25.00
3	25.00	20	25.00	120	25.00
4	25.00	25	25.00	130	25.00
5	25.00	30	25.00	150	25.00
6	25.00	40	25.00		

### DOUBLE RANGE VOLTMETERS

20-2	\$29.00	30-3	\$29.00	80-8	\$29.00
20-8	29.00	50-2.5	29.00	100-10	29.00
25-2.5	29.00	50-5	29.00	150-15	29.00

### TRIPLE RANGE VOLTMETERS

25-10-2.5	\$33.00	40-20-4	\$33.00	80-20-4	\$33.00
30-3-1.5	33.00	50-5-2.5	33.00	100-25-2.5	33.00
30-6-3	33.00	50-25-5	33.00	150-15-1.5	33.00
30-15-3	33.00	50-25-10	33.00	150-15-3	33.00

### SINGLE RANGE MIL-AMMETERS

* 50	\$25.00	*120	\$25.00	*300	\$25.00
* 60	25.00	*130	25.00	*400	25.00
* 75	25.00	*150	25.00	*500	25.00
* 80	25.00	*200	25.00	*600	25.00
*100	25.00	*250	25.00	*750	25.00

### SINGLE RANGE AMMETERS

1	\$25.00	4	\$25.00	12	\$25.00
1.2	25.00	5	25.00	15	25.00
1.5	25.00	6	25.00	20	25.00
2	25.00	7.5	25.00	25	25.00
2.5	25.00	8	25.00	30	25.00
3	25.00	10	25.00		

### DOUBLE RANGE AMMETERS

1-0.1	\$29.00	8-2	\$29.00	25-2.5	\$29.00
2.5-0.25	29.00	10-1	29.00	25-5	29.00
5-0.1	29.00	15-1.5	29.00	30-3	29.00
5-0.5	29.00	20-2	29.00		

### TRIPLE RANGE AMMETERS

5-2.5-0.25	\$33.00	20-4-2	\$33.00	30-3-1.5	\$33.00
10-1-0.1	33.00	20-8-2	33.00	30-6-3	33.00
10-1-0.5	33.00	25-2.5-0.5	33.00	30-15-3	33.00
10-2.5-1	33.00	25-5-2.5	33.00	15-3-1.5	33.00
15-3-0.150	33.00	25-10-2.5	33.00		
		25-10-5	33.00		

† Milli-volts. \* Milli-amperes.  
† Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

Dimensions.—Vertical, 4.6 inches; horizontal, 4.4 inches; depth, 1.5 inches.

**WESTON MINIATURE PRECISION INSTRUMENTS**

For Direct Current

**Model 280—Portable Volt-Ammeters**

These instruments possess the same characteristics and advantages as the switchboard instruments. They should be of great value in many kinds of commercial testing where the simultaneous reading of current and e. m. f. is not necessary.

**SINGLE RANGE VOLT-AMMETERS**

Range		List Price *Each	Range		List Price *Each
Volts	Amperes		Volts	Amperes	
1.5	3	\$38.00	20	4	\$38.00
3	1.5	38.00	20	20	38.00
3	3	38.00	25	1	38.00
3	12	38.00	25	5	38.00
3	15	38.00	25	25	38.00
3	30	38.00	30	1.5	38.00
4	8	38.00	30	3	38.00
5	1	38.00	30	6	38.00
5	5	38.00	30	30	38.00
5	10	38.00	40	2	38.00
6	6	38.00	40	8	38.00
6	12	38.00	40	20	38.00
6	30	38.00	50	1	38.00
7.5	1.5	38.00	50	5	38.00
7.5	7.5	38.00	50	10	38.00
7.5	15	38.00	50	25	38.00
8	2	38.00	60	3	38.00
8	4	38.00	60	15	38.00
8	8	38.00	60	30	38.00
8	20	38.00	75	15	38.00
10	1	38.00	80	20	38.00
10	5	38.00	100	1	38.00
10	10	38.00	100	10	38.00
10	25	33.00	100	25	38.00
12	30	38.00	120	3	38.00
15	1.5	38.00	120	12	38.00
15	3	38.00	120	30	38.00
15	7.5	38.00	150	1.5	38.00
15	15	38.00	150	3	38.00
15	30	38.00	150	15	38.00
20	2	38.00	150	30	38.00

**DOUBLE RANGE VOLT-AMMETERS**

20-2	8-2	\$46.00	50-5	5-0.1	\$46.00
20-8	20-2	46.00	50-5	10-1	46.00
25-2.5	2.5-0.25	46.00	50-5	25-2.5	46.00
25-2.5	5-0.5	46.00	50-5	25-5	46.00
25-2.5	25-2.5	46.00	80-8	20-2	46.00
30-3	15-1.5	46.00	100-10	25-2.5	46.00
30-3	30-3	46.00	150-15	15-1.5	46.00
50-2.5	5-0.5	46.00	150-15	30-3	46.00
50-5	1-0.1	46.00			

**TRIPLE RANGE VOLT-AMMETERS**

Range		List Price *Each	Range		List Price *Each
Volts	Amperes		Volts	Amperes	
25-10-2.5	10-2.5-1	\$54.00	50-25-2.5	25-2.5-0.5	\$54.00
30-3-1.5	30-3-1.5	54.00	50-25-5	25-5-2.5	54.00
30-6-3	30-6-3	54.00	50-25-10	10-1-0.5	54.00
30-15-3	15-3-0.150	54.00	50-25-10	10-2.5-1	54.00
30-15-3	30-15-3	54.00	50-25-10	25-10-5	54.00
40-20-4	20-4-2	54.00	80-20-4	20-8-2	54.00
50-5-2.5	5-2.5-0.25	54.00	100-25-2.5	25-10-2.5	54.00
50-5-2.5	10-1-0.1	54.00	150-15-1.5	30-3-1.5	54.00
50-5-2.5	25-5-2.5	54.00	150-15-3	15-3-1.5	54.00
50-25-2.5	10-5-0.5	54.00	150-15-3	30-3-1.5	54.00

Model 280 Instruments can also be supplied in the following ranges:  
 Single range ammeters with external shunts, 50, 75, 100 and 150 amperes, \$30.00 list.

Double range voltmeter with ranges of 15-3 volts, \$29.00 list.  
 Triple range volt-ammeters with ranges of 15-15-3 amperes and 150-15-1.5 volts, 30-15-1.5 amperes, \$54.00 list.

All portables will be supplied with leather cases when so ordered at an additional charge to the list price of \$3.00.

**Dimensions.**—Vertical, 4.6 inches; horizontal, 4.4 inches; depth, 1.5 inches.

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.



# WESTON MINIATURE PRECISION INSTRUMENTS

For Direct Current



Voltmeter



Ammeter

## Model 279—Portable Battery Testers

These instruments consist of a battery testing voltmeter and a variety of ranges of ammeters. They are designed to facilitate the accurate and rapid testing of single cells of storage and other batteries. The voltmeter is provided with a special detachable spike terminal, designed to minimize the time required to make a test. In form it resembles somewhat a speed indicator, and is extremely convenient to manipulate and to read.

The ammeter also has conveniently arranged binding-post, but otherwise it resembles in general appearance the switchboard instruments. The form of the case of both the voltmeter and the ammeter is convenient to hold in the hand, thus adding much to the general usefulness of the instruments.

### VOLTMETERS

	Range Volts	*List Price Each
Voltmeter	3-0-3	\$22.00

### ZERO CENTER AMMETERS

Range Amperes	*List Price Each	Range Amperes	*List Price Each
1-0-1	\$22.00	7.5-0-7.5	\$22.00
1.5-0-1.5	22.00	10-0-10	22.00
2-0-2	22.00	15-0-15	22.00
3-0-3	22.00	20-0-20	22.00
5-0-5	22.00	30-0-30	22.00

### ZERO LEFT AMMETERS

1	\$22.00	7.5	\$22.00
1.5	22.00	10	22.00
2	22.00	15	22.00
3	22.00	20	22.00
4	22.00	25	22.00
5	22.00	30	22.00

### DIMENSIONS

#### Voltmeters

Vertical case only, 3.5 inches, with terminal, 4.9 inches; horizontal, 4.2 inches; depth, 1.35 inches.

#### Ammeters

Vertical, 3.7 inches; horizontal, 4.2 inches; depth, 1.4 inches.

Model 279 voltmeters for other ranges than 3-0-3 will be supplied within practical limits, prices for which will be quoted upon request.

All portable voltmeters will be supplied with leather cases when so ordered at an additional charge to the list price of \$2.50.

\*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON INSTRUMENTS  
MODEL 301—FOR AUTOMOBILES**


Zero-Center Ammeter



Zero-Left Ammeter

**Weston Miniature Voltmeter and Ammeters**

These instruments are especially designed for installation in automobiles. They are reliable, accurate and serviceable for measuring the voltage and rate of charge or discharge of batteries.

List No.		Mounting	Diam. Case	Depth	Scale Length	List Price
301	Ammeter	Front	2.750	1.234	2.35	\$12.00
301	Voltmeter	Flush	3.250	1.171	2.35	12.00
301	Ammeter	Flush	3.250	1.171	2.35	12.00

**RANGES AMMETERS AND VOLTMETERS**
**AMMETERS**
**Zero-Left**

0-1 amperes	0-8 amperes
0-1.5 amperes	0-10 amperes
0-2 amperes	0-12 amperes
0-2.5 amperes	0-15 amperes
0-3 amperes	0-20 amperes
0-4 amperes	0-25 amperes
0-5 amperes	0-30 amperes

**Zero-Center**

1-0-1 amperes
1.5-0-1.5 amperes
2-0-2 amperes
3-0-3 amperes
5-0-5 amperes
10-0-10 amperes
15-0-15 amperes
20-0-20 amperes
30-0-30 amperes

**Zero 1/4 Scale**  
10-0-30 amperes

**VOLTMETERS**
**Zero-Left**

0-1 volts	0-25 volts
0-1.5 volts	0-30 volts
0-2 volts	0-40 volts
0-2.5 volts	0-50 volts
0-3 volts	
0-4 volts	

**Zero-Center**  
3-0-3 volts

†Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries, write nearest house.

**G. E. Lamp Testing Watt Indicator**
**Type L**


No. 60565

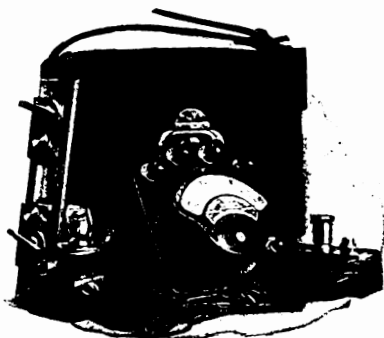
This instrument indicates the watts consumed by the lamp. The plug end of the instrument is equipped with a spring contact end, permitting an extra turn so that the scale may always be in full view.

The instrument is 6 1/4 inches long, 3 3/4 inches wide and 2 1/2 inches deep; it can be easily slipped into the pocket, and is therefore conveniently carried.

The aluminum part of the case is buffed, while the domes are finished in black oxide.

List No.	Amperes	Watts	*List Price Each
G0565	1.5	125	\$28.00

**WESTON INSTRUMENTS**

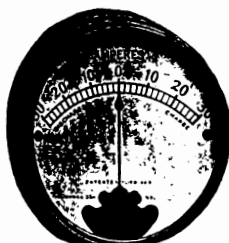


**Model 280  
Garage Testing Instrument**

**Weston Model 280 Garage Testing Instrument**

The Weston garage testing instrument is extremely serviceable and will prove of invaluable assistance to the employees in any garage. This instrument is adjusted for ranges of 30 and 3 volts and 100 millivolts, and is provided with external shunts of 3, 30 and 300 ampere rating for use in current measurements. The 30 volt range is useful for determining the voltage of the starting or lighting system or batteries. The 3 volt range is of service in testing the individual storage batteries. The 100 millivolt range may be used to determine the drop over segments of the commutator of the motor or generator. The 3 ampere range is of value in testing the current required by single lights. The 30 ampere range will denote the current required by a complete lighting circuit or the magnitude of leaks. The 300 ampere range is useful to determine the starting current. The foregoing are merely a few illustrative tests to indicate the flexibility and scope of the instrument.

List No.		*List Price
280	Garage testing instrument.....	\$40.50
	Leather carrying case.....	4.96



**Model 354  
Surface Type**

**Weston Model 354 Direct Current Ammeter**

The model No. 354 is an excellently made and reliable instrument, designed with a full knowledge of the severe conditions of the automobile service, and if properly installed, will operate successfully on any standard lighting and starting equipment, either one or two unit excepting those in which the charging and lighting circuits are not electrically separated from the starting circuits. The latter systems are those in which the current for starting is passed through the ammeter. The action of the pointer of these instruments is extremely quick and responsive, and at the same time properly deadbeat so that excessive overswing and constant oscillations from any other cause than corresponding changes in the actual strength of the current in the circuit do not occur. In other words, the pointer of the instrument moves instantly in response to every change in the strength of the current flowing in the circuit, and the instrument very correctly indicates the value of such changes. It follows therefore that wherever the spark coil is operated by a battery and the primary of the coil is included in the ammeter circuit, the ammeter will quite accurately respond to the current impulses in the coil, and indicate very closely its true average value. These ammeters are furnished with three styles of cases, i.e.: (1st) flush type with wide flange to be screwed directly to the cowl or dash board. (2nd) front projecting type with back connecting studs serving the dual function of providing a means of making electrical connections and securing the instrument in position; (3rd) flush type narrow flange, which is secured in position by means of a special clamp.

Model 354 ammeters are finished with full nickel or full black finish, but we suggest the nickel finish unless a strong preference exists for the black finish. The model 354 is always furnished with zero in the center of the scale only, and in various ranges for special purposes. The standard ranges for automobile service, however, are 15-0-15 amperes and 30-0-30 amperes. With each meter is furnished a full size templet for drilling or cutting the dash.



**Model 354  
Flush Type**



**Model 354  
Rear View  
Surface Type**

List No.	Range Amperes	*List Price
354	10-0-10	\$6.38
354	15-0-15	6.38
354	20-0-20	6.38
354	30-0-30	6.38

\*Delivery F. O. B. Newark, N. J. For warehouse deliveries write nearest house.